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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,848	04/05/2004	Yoshiyuki Asayama	251407US0DIV	2704
22850 7590 07/06/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER SANDERS, JANIS C	
			ART UNIT 1732	PAPER NUMBER
			NOTIFICATION DATE 07/06/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/816,848

Applicant(s)

ASAYAMA ET AL.

Examiner

Janis Sanders

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-24 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/05/2004</u> . | 6) <input checked="" type="checkbox"/> Other: _____ |

This office action replaces the office action mailed 6/14/07.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and **generally limited to a single paragraph** on a separate sheet **within the range of 50 to 150 words**. **It is important that the abstract not exceed 150 words in length** since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the content exceeds 150 words and is not limited to a single paragraph. Correction is required. See MPEP § 608.01(b).

Information Disclosure Statement

2. An initialed and dated copy of Applicant's IDS form 1449 filed 04/05/2004, is attached to the instant Office action.

Claim objections

3. Claim 21 is objected to because of the following informalities:

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Claim 21 discloses the formula $0.15 \leq N/(S1)^{1/2}$. For the purpose of examination, the interpretation $0.15 \leq H/(S1)^{1/2}$ will be assumed.

Claim 21 is further objected to because of the basis weight unit is required as g/cm^2 . For the purpose of examination, the unit will be interpreted as g/m^2 as provided in the specifications (page15, line 7).

Appropriate correction is required.

Claim Rejections - 35 USC § 112, second paragraph

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 17-20 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "by JIS-P 8126" in claim 17 is unclear, which renders the claim vague and indefinite. It is unclear from the claim language and specification what steps are involved in the testing procedure of "JIS-P 8126".

The phrase "by JIS-P 8113" in claim 17 is unclear, which renders the claim vague and indefinite. It is unclear from the claim language and specification what steps are involved in the testing procedure of "JIS-P 8113".

Claim 22 recites the limitation "low density paper," which renders the claim unclear. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination, the interpretation "low density layer" will be assumed.

Clarification and/or correction are required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsura et al. in view of Norlander et al.

Regarding claim 17, Katsura et al. (US 4,775,560) discloses a process for preparing a molded heat resistant container suitable for food packaging (column 2, lines 15-20) comprising molding under heat and pressure a paper laminate (considered to correspond to the molding base

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paper) (column 9, lines 35-45). It is the position of the examiner that any molding step that changes the shape of the base paper by heat and pressure performs a draw molding step. It is further noted that the molding step taught by the reference is the same as disclosed in the instant specification at pages 27-28. In an example, the reference details the preparation of a rectangular tray having a length of 16 cm, a width of 9.5 cm, and a depth of 2 cm (column 11, lines 25-30). These measurements yield a value of 0.16, which satisfies formula (5).

The difference between the reference and the claims is that Katsura et al. does not disclose the properties of the base molding paper required by claim 17.

Norlander et al. (WO 00/14333) discloses a paper or paperboard laminate (considered to correspond to the molding base paper) suitable as an intermediate product for packaging of food products (page 4, lines 1-5). The laminate has a basis weight of between 50 and 500 g/m² and a tensile index of 50-100Nm/g (page 4, lines 25-30 and page 5, lines 1-2). These values yield a tensile strength of 2.5-50 kN/m. The examples detail the preparation of laminates having an elongation at break of at least 1.5% (refer to Tables 4-6 on pages 23, 26, and 28).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process taught by Katsura et al. to include the use of the laminate taught by Norlander et al. One would have been motivated to do so in order to have a molding base paper, which exhibits very great stiffness and lower material consumption (refer to page 3, lines 30-39 of the WO reference). Because both molding base papers are suitable for use in the preparation of containers for the packaging of foodstuffs, one of ordinary skill would have been motivated to substitute one for the other with a reasonable expectation of success.

With respect to property (3), the combined teachings of the reference do not specifically teach the claimed critical compression stress. However, because the WO reference discloses a paper laminate having the same density, basis weight, composition, and tensile strength as the instant molding base paper, it is the position of the examiner that the compression stress would necessarily be the same. With respect to property (4), the combined teachings of the reference do not specifically teach the amount of compression deformation. However, because the WO reference discloses paper laminate having the same density, basis weight, composition, and tensile strength as the instant molding base paper and the combined teachings of the reference teach the preparation of a vessel under the same conditions as the instant vessel and satisfies the formula (5), it is the position of the examiner that the amount of compression deformation would necessarily be the same.

Regarding claim 18, Norlander et al. teaches that the low density bulk layer is formed from either chemi-thermomechanical pulp or thermomechanical pulp (Page 5, lines 11 - 13).

Regarding claim 19, Norlander et al. teaches that 45-90% of the bulk layer consists of cellulose fibers (abstract).

Regarding claim 20, Norlander et al. teaches that to further reinforce the strength of the base paper, surface layers of synthetic resins are coated on the surface, where the resins are chosen from polyethylene, polypropylene, polyethylene vinyl alcohol co-polymer, polyvinyl alcohol and cellulose esters (Page 8, lines 23 - 28).

8. Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsura et al. in view of Norlander et al.

Regarding claim 21, Katsura et al. (US 4,775,560) discloses a process for preparing a molded heat resistant container suitable for food packaging (column 2, lines 15-20) comprising molding under heat and pressure a paper laminate (considered to correspond to the molding base paper) (column 9, lines 35-45). It is the position of the examiner that any molding step that changes the shape of the base paper by heat and pressure performs a draw molding step. It is further noted that the molding step taught by the reference is the same as disclosed in the instant specification at pages 27-28. In an example, the reference details the preparation of a rectangular tray having a length of 16 cm, a width of 9.5 cm, and a depth of 2 cm (column 11, lines 25-30). These measurements yield a value of 0.16, which satisfies formula (1).

The difference between the reference and the claims is that Katsura et al. does not disclose the properties of the base molding paper required by claim 21.

Norlander et al. (WO 00/14333) discloses a molding base paper used for packing food items and industrial goods (Page 4, lines 1 - 3) containing a low density bulk layer, which has a density between 0.05 g/cm^3 and 0.3 g/cm^3 (Page 4, lines 12 - 16), with a secondary layer laminated one at least one side (Page 4, lines 26 - 27) having a higher density of 0.3 to 1.5 g/cm^3 (Page 4, lines 20 - 24). The base paper has a basis weight of 50 g/cm^2 and 500 g/m^2 (Page 4, lines 26 - 28) and a density of $0.1\text{-}0.5 \text{ g/cm}^3$ (page 32, claim 8).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process taught by Katsura et al. to include the use of the laminate taught by Norlander et al. One would have been motivated to do so in order to have a molding base paper, which exhibits very great stiffness and lower material consumption (refer to page 3, lines 30-39 of the WO reference). Because both molding base papers are suitable for use

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in the preparation of containers for the packaging of foodstuffs, one of ordinary skill would have been motivated to substitute one for the other with a reasonable expectation of success.

Regarding claims 22-23, Norlander et al. teaches the low density bulk layer is formed from either chemi-thermomechanical pulp or thermomechanical pulp (Page 5, lines 11 - 13).

Regarding claim 24, Norlander et al. teaches to further reinforce the strength of the base paper, surface layers of synthetic resins are coated on the surface, where the resins are chosen from polyethylene, polypropylene, polyethylene vinyl alcohol co-polymer, polyvinyl alcohol and cellulose esters (Page 8, lines 23 - 28).

Remarks

9. No claim is allowed.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yagi (US 5,695,608), Kinsley (US 4,775,560), Doki (US 5,942,573) and Park (US 5,830,320) disclose methods of paper/ paper composite manufacturing.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis Sanders whose telephone number is 571-272-7145. The examiner can normally be reached on M-Th and alternating Fridays 7:30-5pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Janis Sanders
Patent Examiner
Art Unit 1732

05/31/07


CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER
6/21/07